REMARKS

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1 - 102 are in this Application. Claims 2 – 35, 40 – 46, 50 – 75, 78, 79, and 83 – 102 have been withdrawn from consideration. Claims 1, 36 – 39, 47 – 49 76 – 77, and 80 - 82, have been rejected under 35 U.S.C. § 103. Claims 1 and 76 have been amended herewith.

Amendments To The Claims

35 U.S.C. § 103 Rejections

Claims 1 and 76 have been amended to teach that the waveform is modulated with the positional information. Likewise it is demodulated to obtain the positional information.

Kitada US 6,798,403 teaches an ultrasonic system for position detection.

Examiner acknowledges that Kitada fails to teach a continuous waveform including a signal comprising positional information modulated thereon.

In this respect Examiner cites Puma et al. Examiner uses a definition of Modulation taken from the Merriam Webster Online Dictionary in order to construe the term "modulation" as "to vary the amplitude, frequency or phase of a carrier wave or light wave for the transmission of information.

Puma does not *vary* the amplitude, frequency or phase of the carrier wave, *even according to the interpretation that the Examiner places on Puma*. In Puma these properties remain the same and the resulting interference fringes are measured, but no variation of these properties occurs.

Thus it is respectfully submitted that according to the Examiner's very own definition the claims are allowable, even without the present amendment.

Nevertheless, applicant has amended the claim to refer to *local* variation of the continuous properties of the continuous wave. The feature of local variation is intrinsic to the meaning of modulation since, if the variation were not localized, it would be a change to the continuous carrier wave rather than a modulation of the

carrier wave, and the specification is quite clear that no variation is made to the continuous properties of the carrier wave.

Present claim as amended certainly does not now read on to the system of Puma in which interference fringes are investigated to determine phase differences.

The following is the introduction to the article on modulation from Wikipedia. It will be clear from the following that nothing in Puma does what the skilled person would understand from the term "modulation" irrespective of the present amendment.

"In electronics, **modulation** is the process of varying one or more properties of high frequency periodic waveform, called the *carrier signal*, with respect to a *modulating signal*. This is done in a similar fashion as a musician may modulate the sound from a musical instrument by varying its volume, timing and pitch. The three key parameters of a periodic waveform are its amplitude ("volume"), its phase ("timing") and its frequency ("pitch"), all of which can be modified in accordance with a low frequency signal to obtain the modulated signal. Typically a high-frequency sinusoid waveform is used as carrier signal, but a square wave pulse train may also occur."

"In telecommunications, **modulation** is the process of conveying a message signal, for example a digital bit stream or an analog audio signal, inside another signal that can be physically transmitted. Modulation of a sine waveform is used in view to transform a baseband message signal to a passband signal, for example a radio-frequency signal (RF signal). In radio communications, cable TV systems or the public switched telephone network for instance, electrical signals can only be transferred over a limited passband frequency spectrum, with specific (non-zero) lower and upper cutoff frequencies. Modulating a sine wave carrier makes it possible to keep the frequency content of the transferred signal as close as possible to the centre frequency (typically the carrier frequency) of the passband."

Puma makes no kind of *variation* to the *properties* of the waveform but merely causes interference between two waveforms. The above requirement for modulation of the signal onto the carrier by varying the properties of the carrier, which meaning is the dictionary definition of modulation according to the Examiner, therefore PROHIBITS Puma from reading onto the claims.

Thus Kitada combined with Puma fails to teach:

"a positional element for attaining a position and comprising a first emitter for emitting a continuous ultrasonic waveform, said continuous waveform having continuous waveform properties and further including *a signal* comprising positional information *modulated* thereon, said modulating comprising *locally varying said*

continuous properties, such that *said signal comprising positional information is carried on said continuous ultrasonic waveform,* said continuous ultrasonic waveform being *decodable to extract said signal and said positional information*, therewith to fix said attained position,"

Contrary to the requirements of claim 1, Kitada has no modulation by the Examiner's own admission and Puma fails to teach modulation by the Examiner's own dictionary definition since Puma fails to vary any of the wave properties. Puma certainly fails to make local variations to the wave properties, contrary to the requirements of the present claims.

Corresponding amendments have been made to claim 76, so that this too recites a continuous waveform which is modulated by making local variations of the waveform property.

The remaining claims are believed to be allowable as being dependent on allowable main claims.

The independent claims are believed to be generic to *all* of the species.

In view of the above amendments and remarks it is respectfully submitted that the rejected claims are now in condition for allowance, and that the withdrawn claims relating to the non-elected species *may be restored to the application*. A prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

/Jason H. Rosenblum/

Jason H. Rosenblum
Registration No. 56,437
Telephone: 718.246.8482

Date: June 2, 2010

Enclosures:

- Request for Continued Examination (RCE)
- Petition for Extension for two (2) months time